

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 06350093  
PUBLICATION DATE : 22-12-94

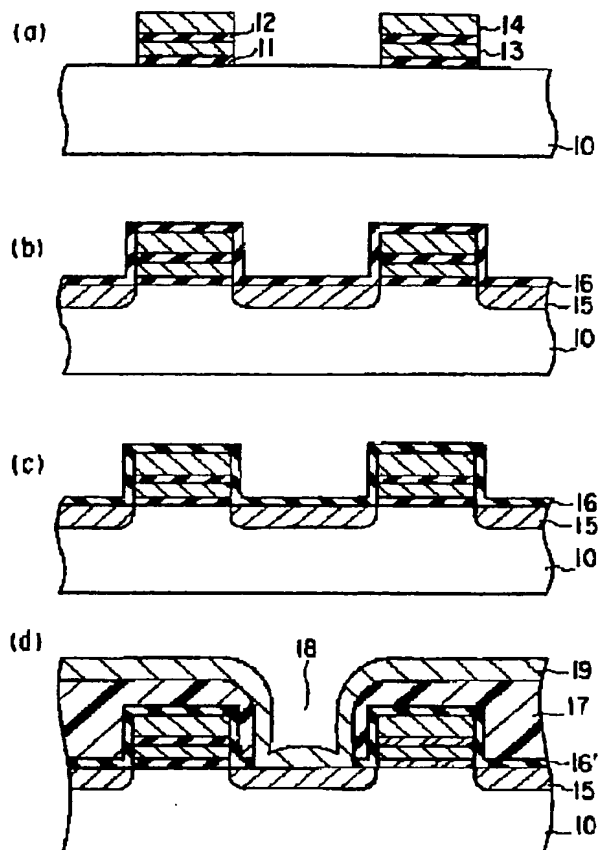
APPLICATION DATE : 04-06-93  
APPLICATION NUMBER : 05134584

APPLICANT : TOSHIBA CORP;

INVENTOR : ARAKI HITOSHI;

INT.CL. : H01L 29/788 H01L 29/792

TITLE : MANUFACTURE OF NONVOLATILE SEMICONDUCTOR MEMORY



ABSTRACT : PURPOSE: To provide a method of manufacturing a nonvolatile semiconductor memory which forms an oxide film enabling the charge holding characteristic to be improved on the sides of a floating gate.

CONSTITUTION: A silicon oxide 16 covering over a silicon substrate 10, which contains the top and sides of a control gate electrode 14 and the sides of a suspended gate electrode 13, is formed by thermal oxidation or chemical vapor phase epitaxy. And it is subjected to rapid nitriding within 60 seconds by infrared lamp heating in an  $\text{NH}_3$  atmosphere over a substrate temperature range of  $800^\circ$  to  $1100^\circ\text{C}$  to convert a silicon oxide 16 to silicon nitride oxide 16'.

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